

into the house, two were sheltering in a shed for a considerable time, and 14 individuals were found in a small deep burrow-like hole in the ground about 8 in. in diameter and 30 in. long. As I walked past the "stand-pipe" where the farmers fill up their water tanks I noticed two Miners (*Myzantha flavigula*) on the ground beneath the slowly dripping pipe; they were trying to keep cool by standing in the mud, often lying right down and dipping their beaks in. A third bird flew in from a nearby mallee to join the birds on the wet patch which was no more than 5 in. in diameter. At 4 p.m. I found a dead Red-tipped Diamond-bird in the Post Office near the door and which must have succumbed since 2 p.m. At 4.40 p.m. a neighbour brought in a dead immature Black-throated Butcher-bird (*Cracticus nigrogularis*).

February 21 was another day of intense heat, the shade temperature rising to 112° F. The following observations on birds were made at the Beacon Hall, a galvanised iron building situated over a half-a-mile from the township, in tall jam scrub. Several birds were sheltering under the hall though there was little clearance between the floor and the ground. A Willy Wagtail (*Rhipidura leucophrys*) was seen to fly from under the building to the shade under jam trees, occasionally calling the harsh metallic "ehitti-ehitti-ehitti" call. A Singing Honeyeater sheltered under the hall. An Australian Pipit (*Anthus novae-seelandiae*) flew out from under the hall at my approach. I went to the tank for a drink and allowed some water to run into an upturned tank lid under the tap. Later six Magpies (*Gymnorhina dorsalis*) were seen drinking from the lid. Chestnut-tailed Thornbills (*Acanthiza uropygialis*) were quite common, both sheltering under the hall and in the nearby jam scrub, "erouehing" at the bases of the jams in slight depressions surrounded by a large amount of dead plant debris. Several of these thornbills were noted under a small woodheap near the hall.

—DONALD N. CALDERWOOD, Beacon.

The Distribution of the Bee Genus, *Trigona*.—In 1935 the author demonstrated that the tiny stingless bees in the Tribe Meliponini were confined to a narrow zone within the Tropics of Cancer and Capricorn throughout the world. All of the species are very small indeed, only a mere two or three millimetres in length, but they are nevertheless extremely interesting, because they have a social organization comparable with that of the domestic hive-bee, *Apis*: that is there are queens, drones and "workers", building numerous cells of a primitive chocolate-coloured wax. Honey and pollen, also certain kinds of resin, and kino, are gathered for common use by the colony.

In a broad way one can say that the hive bee, *Apis*, is not "happy" in the equatorial zone. The stingless *Trigona* are equally "unhappy" in the temperate zone. Consequently they are seldom found below 32° South, the latitude of Perth and Broken Hill. There are rare records of one coal-black species, *T. carbonaria* Sm., being taken as far south as Sydney.

The brown species, more or less ornamented with ivory colour, are, however, confined to the far north of Australia and New Guinea. Strangely, the presence of *Trigona* in Western Australia was not established until January 1931, when Dr. H. T. Webster, of Wyndham, presented to the author a number of typical workers of *T. carbonaria angophorae* Ckll. The second record, a very recent one, is from Dr. D. L. Serventy, of Perth. On November 25, 1952, at Quarrina Well, Coolawanyah Station, on the Fortescue River, he collected a number of workers of *T. cossingtoni* Ckll., one of the prettiest of the brown group. When forwarding the specimens to me the collector stated they were abundant and asked: what is the southern limit of their range?

Rica Erickson, of Bolgart, has collected a large number of bees from her district, which is 90 miles or so north of Perth, but so far the author has not received any specimens of the social *Trigona*.

T. cossingtoni was described from Port Essington, in Arnhem Land, and the Coolawanyah record represents a huge extension of range. Dr. Serventy and Major Whittell (1948) have discussed Baldwin Spencer's terms, Bassian Eyrean, etc., for certain geographical regions in Australia, but they prefer to apply them to faunal groups rather than regions, and this concept has much to commend it. With birds the tropical Torresian fauna ends abruptly at the southern boundary of the Kimberley Division, and comparatively few Torresian elements penetrate south among the predominating Eyrean avifauna. With the native bees it is unknown to what extent the Torresian fauna extends south of the Kimberley. *T. cossingtoni* is evidently one such element intruding into the Pilbara country, but future collecting must show how far further south it ranges and how many of its fellow-Torresian insects accompany it. Insect zoogeographical studies still lag far behind those on birds.

—TARLTON RAYMENT, Sandringham, Victoria.

Aggregations of Whistling Eagles and Other Birds.—That the Whistling Eagle (*Haliastur sphenurus*) occasionally congregates into large flocks in the non-breeding season is a familiar enough fact, but few actual field observations of such occurrences have been published.

On March 5, 1953 on a trip to the South-west with Mr. D. L. McIntosh, two large flocks of Whistling Eagles were observed together with large flocks of the White-faced Heron (*Notophoxyx novae-hollandiae*), and other birds, on some drying-off swamps about five miles north of Manjimup.

The first swamp visited still contained a few acres of shallow water and the following birds were seen there:—Whistling Eagle (45 individuals), White-faced Heron (32), Pacific Heron (*N. pacifica*) (15), Little Pied Cormorant (*Phalacrocorax melanoleucos*) (31), Black Cormorants (*P. carbo* and *P. sulcirostris*) (1 of each), Ducks (*Anas gibberifrons* and *A. pockilohyncha*) (ca. 40, mostly the